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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,006	12/16/1999	Michael Heckmeier	MERCK-2073	8358

23599 7590 04/26/2002

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EXAMINER

WU, SHEAN CHIU

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 04/26/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

Applicant(s)

09/465,006

HECKMEIER ET AL.

Examiner

Art Unit

Shean C Wu

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period of Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 11-12, 14-15, 18, 21-23, 25-26, 29 and 32 are rejected under 35 U.S.C. 102(b)/(e) as being anticipated by WO 98/23563 or US 6,210,761 B1).

The reference discloses that liquid crystal compounds which exhibit not only a negative anisotropy value but also extremely high voltage retention and low threshold voltages, are reduced in the temperature dependence of these properties, difficultly exhibit a smectic phase, and are excellent in compatibility with other liquid crystal materials; liquid crystal compositions containing the same; and liquid crystal displays made by using the compositions. The compounds are represented by general formula (1). The liquid crystal composition comprise other suitable compounds are expressed by the general formulae (2)-(12). Each compound from general formulae (2)-(12) is discussed in the specification. See formulae (2)-(6) on col. 23, lines 40-46 and col. 28, lines 23-51, which have a positive dielectric anisotropy value (corresponding to the present formula

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II). The general formulae (7)-(9) are correspond to the present formula III (see col. 32, lines 7-22). The general formulae (10)-(12) and (1) overlap the present formula II. The compounds and their properties of Examples 25 and 26 anticipate the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13, 16-17, 19-20, 24, 27-28, 30-31 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. above.

With respect to claims 13, 16-17 and 20, the reference differs from the claims in that the claimed compounds are not exemplified in the reference. However, the compounds and their concentrate ranges of the formulae III and IIIa-IIIc are disclosed by the reference. See formula (10)-(12), (7)-(9) and Composition Example 14 on col. 42.

With respect to claims 24, 27-28, 30-31 and 33-34, the reference differs from the claims in that the claims have more specific values for the liquid crystal properties. The reference teaches that compounds expressed by one of the general formulas (7) to (9) have a small absolute value of dielectric anisotropy and are close to neutral and the compounds expressed by the general formula (7) are used principally for the purpose of adjusting viscosity or adjusting optical anisotropy value. The reference further teaches

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that the compounds expressed by the general formula (8) or (9) are used for the purpose of expanding nematic range such as raising clearing point or for the purpose of adjusting optical anisotropy value. The general formula (10) are two rings compounds, the compounds are used principally for the purpose of adjusting threshold voltage, adjusting viscosity, or adjusting optical anisotropy value. Compounds expressed by the general formula (11) are used for the purpose of expanding nematic range such as raising clearing point or for the purpose of adjusting optical anisotropy value. Compounds expressed by the general formula (12) are used for the purpose of lowering threshold voltage and for the purpose of increasing optical anisotropy value in addition to the purpose of expanding nematic range. Therefore, it would have been obvious to those skilled in the art to admix those known compounds with formulae I and II of the present invention and optimize the ranges of these compounds to arrive at the claimed invention.

With respect to claim 19, the reference differs from the claim in that the claim has three-pole active switch. The active matrix comprising three-pole switching element such as TFT is also known in the art (see US 5,883,686), it would have been obvious to those skilled in the art to use reference liquid crystal materials for the claimed device.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C Wu whose telephone number is 703-308-3956. The examiner can normally be reached on Monday-Friday 9:30 -6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Shean C Wu
Primary Examiner
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